

LIST OF FISHES COLLECTED AT GREEN TURTLE CAY, IN THE BAHAMAS, BY CHARLES L. EDWARDS, WITH DESCRIPTIONS OF THREE NEW SPECIES.

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In the summer of 1888 a small collection of fishes was made at Green Turtle Cay, one of the Bahama Islands, by Mr. Charles Lincoln Edwards, a worker in the Johns Hopkins biological laboratory.

In the present paper we have given a list of these species with descriptions of the three which appear to be new to science. The types of the new species are in the U. S. National Museum, the others in the museum of the University of Indiana.

1. *Echidna catenata* (Bloch).
2. *Gymnothorax moringa* (Cuvier).

Stilbiscus, gen. nov. (*Congridæ*).

Diagnosis.—Approaching *Neoconger* Girard, from which it can be separated by the following characters: Dorsal and anal fins beginning more than a head's length behind vent and only developed for a distance about equal to length of head, when they almost disappear to reappear near end of tail. Tail twice as short as body; teeth uniserial.

Type.—*Stilbiscus edwardsi* Jordan & Bollman.

Description.—Body very elongate, slender, terete; tail contained about twice in rest of body; lateral line present; head long, pointed, conical; eye small, placed just anterior to angle of mouth, its upper margin opposite posterior nostril; lower jaw projecting; teeth uniserial, canine-like, some of the anterior enlarged; tongue adnate to floor of mouth; anterior nostril near tip of snout, with a short tube; posterior larger near front of eye, and without a tube. Gill-openings small, slightly oblique, not much broader than front of pectoral. Dorsal and anal fins beginning behind vent at a distance equal to head and length of pectoral; developed for about a head's length, then almost disappearing to reappear about a half head's length from the end of tail. Pectorals developed, their length slightly longer than snout.

3. *Stilbiscus edwardsi*, sp. nov.

Description.—Head $7\frac{1}{2}$ in trunk, $4\frac{1}{2}$ in tail; snout 7 in head, its length somewhat greater than distance between gill-openings; eye $1\frac{1}{5}$ in snout, $1\frac{1}{2}$ in interorbital space. Cleft of mouth reaching to posterior margin of eye; upper jaw 5 in head, lower $4\frac{3}{4}$. Height of gill-opening $1\frac{1}{2}$ in snout. Dorsal and anal beginning $1\frac{3}{7}$ length of head behind vent, their developed part about equal to length of head and pectoral; developed part at end of tail contained $1\frac{2}{3}$ times in head. Pectorals 6 in head. Upper half of head and body above lateral line brown; lower parts of a bright

metallic bluish-silver color. Dorsal and anal fins pale, the latter with a dusky stripe on each side of its base; pectorals dusky; caudal black.

This species is named for Mr. Charles L. Edwards, its discoverer. A single specimen was obtained.

4. *Harengula sardina* (Poey).
5. *Harengula clupeola* (Cuv. & Val.).
6. *Tylosurus notatus* Poey.
7. *Mugil curema* (Cuv. & Val.).
8. *Atherina stipes* Müller & Troschel.

A few specimens. The general coloration is somewhat darker than in specimens from Key West.

9. *Sphyræna picuda* Bloch & Schneider.
10. *Echeneis naucrates* Linnaeus.

One specimen almost ten inches long. D. XX, 30; A. 31.

11. *Caranx bartholomæi* Cuv. & Val.
12. *Caranx crinitus* Mitchill.
13. *Holocentrus ascensionis* (Osbeck).
14. *Holocentrus coruscus* Poey.

Holocentrum coruscum Poey, Memórias, II, 159, 1860 (*Cuba*).

Head $2\frac{4}{5}$ ($3\frac{1}{2}$); depth $2\frac{2}{3}$ ($3\frac{1}{3}$). D. XI, 14; A. IV, 9. Scales 3-42-8.

Body shaped as in *H. suborbitalis*, a Pacific coast species, to which it is nearly related. Eye very large, $2\frac{1}{3}$ in head. Snout very short, 2 in eye. Mouth small, maxillary reaching past anterior margin of pupil, 3 in head. Width of interorbital space not as long as maxillary, $3\frac{1}{3}$ in head. Bones of top of head marked as in *suborbitalis*, except that a few of the upper occipital ridges are serrated. Spines on preopercle, opercle, interopercle, preorbital and suborbital as in the Western species; spines on subopercle a few more; scales on body as in *ascensionis* or *suborbitalis*; nuchal scale as large as in the latter; five rows of scales on cheek, none on opercle.

Spinous dorsal moderately high; first spine 3 in head; third spine longest, $2\frac{1}{4}$ in head. Soft dorsal higher than spines; not falcate, as in *ascensionis*; longest ray $1\frac{5}{7}$ in head. Third anal spine longest, almost 2 in head; longest ray $1\frac{1}{5}$ in head, not falcate. Pectorals $1\frac{3}{7}$ in head. Ventrals $1\frac{1}{7}$; its outer rays not produced, about two-fifths diameter of eye from vent. Upper caudal lobe apparently not much produced, $1\frac{2}{5}$ in head.

Color in spirits.—Pale silvery, edges of scales showing bright blue steel reflections; a reddish shade above lateral line. Bands of dots following rows of scales, those below lateral line widest and most diffused. No markings on head with the exception of dots. Spinous dorsal dusky; a large black spot between first and third spine; membrane between bands of posterior spines with dusky spots; a row of whitish angular spots on the anterior part of membrane between each two spines, those between the third and sixth spines longest, the two

anterior well developed below the large black spot. Other fins pale; upper angle of pectoral with a group of dots.

The above description was taken from a young specimen two inches long.

15. *Mycteroperca venenosa guttata* (Linnaeus).
16. *Lutjanus jocú* (Bloch & Schneider).
17. *Lutjanus griseus* (Linnaeus).
18. *Lutjanus apoda* (Walbaum).
19. *Hæmulon sciurus* (Shaw).
20. *Hæmulon parra* (Desmarest).
21. *Hæmulon rimator* Jordan & Swain.
22. *Calamus bajonado* (Bloch & Schneider).
23. *PlatyGLOSSUS bivittatus* (Bloch).
24. *Gerres harengulus* (Goode & Bean).
25. *Gerres lefroyi* (Goode).
26. *Sparisoma niphobles* sp. nov.

Diagnosis.—Allied to *S. radians*, *lachrymale*, *hoplomystax*, etc., but not agreeing with the descriptions of any of the species of this type.

Description.—Head, $3\frac{2}{3}$ (4); depth, $3\frac{2}{3}$ ($4\frac{1}{5}$). D. IX, 10; A. 11. Scales, 2–24–6. Length of type, $5\frac{1}{2}$ inches. Body oblong; jaws pale. A small canine directed downwards on each side in front of upper jaw above cutting edge and close to the median suture; another single stout canine directed outwards and backwards on each side of upper jaw in front of angle of mouth; upper lips covering most of upper jaw. Eye moderate, $4\frac{1}{2}$ in head; snout obtuse, $2\frac{1}{5}$ in head; cheeks with one row of five large scales. Tubes of lateral line each with three to five branches, usually three; four scales on median line before dorsal. Caudal truncate, the outer rays not produced, $1\frac{2}{5}$ in head.

Color in spirits.—Brownish olive, the color so mottled and speckled with whitish as almost to hide the ground color. Head much speckled with bluish and black; dark spots smallest and most defined on top of head; brownish regions most prominent around eyes and lower part of cheeks. Chin crossed by a silvery band, behind which is a brownish band, and then a row of six silvery spots, of which the lowermost are largest; an ill-defined whitish band from lower margin of eye across opercle connecting with one above base of pectorals. Scales on body marked like those on head; black spots more prominent above lateral line, the white below pectorals; above five bluish-white stripes following rows of scales, the one above lateral line most prominent, the one under lateral line not distinct. Between the band above lateral line and the one above base of pectorals are five slightly oblique dusky blotches, of which the third (from the head) is least distinct; the last four extend on dorsal fin. Region around caudal fin brownish, the spots less distinct; a small black humeral spot; two scales in front of dorsal dark. Axil rather dark; dorsal with four distinct darker mot-

tled areas, the first between fifth and seventh spines, the second between last spine and third anal ray, the third at base of fifth and sixth rays, and the last on eighth and ninth rays. Upper part of soft dorsal with 2-3 rows of brownish spots. Caudal brownish, with four or five narrow, wavy, white vertical bars, of which the last two are most prominent. Anal with three darker areas, its markings similar to those on dorsal. Pectorals yellowish, spotted at base and near tips of rays. Ventrals faintly brownish and indistinctly spotted with white.

One specimen obtained.

27. *Pomacentrus leucostictus* (Müller & Troschel).

Young specimens have all the region below in line drawn from snout to black spot on soft dorsal light yellowish-brown. In the adult this region is dark brown, like the rest of the body.

28. *Chaetodon striatus* (Linnaeus.)

The scales are more oblique in this species than would be inferred from the language used in Eigenman & Horning's key to the species of *Chaetodon*.

29. *Acanthurus cœruleus* (Bloch).

30. *Acanthurus tractus* Poey.

31. *Acanthurus hepatus* (Linnaeus).

32. *Gobius soporator* Cuv. & Val.

33. *Gobiesox hæres* sp. nov.

Diagnosis.—Related to *Gobiesox punctulatus* (Poey), but the body not banded.

Description.—Head $2\frac{2}{5}$ ($3\frac{1}{4}$); depth 6 ($7\frac{1}{2}$) D. 9, A. 6. Length $2\frac{1}{4}$ inches. Body rather slender. Head low and broad, greatest breadth not quite equal to length; its anterior margin not so broadly rounded as in *G. virgatus*. Eyes very small, $1\frac{3}{8}$ in interorbital space, 5 in head. Interorbital bone appearing convex, least width $3\frac{1}{2}$ in head and about equal to length of snout. Cleft of mouth extending to beyond middle of eye; lower jaw included. Teeth uniserial; those of upper jaw all canines, the first three on each side small, but becoming larger outwards, next three or four much larger, rest smaller than those in front; anterior teeth of lower jaw entire incisors, which have on each side about six large graduated canines and behind these a few smaller ones; teeth of lower jaw slightly oblique. Distance from front of dorsal to root of caudal about $2\frac{5}{8}$ in body ($3\frac{1}{2}$ in total). Pectorals moderate, 2 in head; ventral disk $1\frac{1}{4}$ in head.

Color.—Olivaceous, without any distinct bands; the occipital region and the caudal peduncle darker; body irregularly mottled with groups of darker spots; nape, preopercle, cheeks, and snout with numerous dark points; indistinct dark lines radiating from eye. Lips dark. Fins dusky; dorsal and anal with the first two rays black; a pale spot near base of caudal; axil of pectoral dusky.

A single specimen taken.

34. *Platophrys lunatus* (Linnaeus).

35. *Achirus inscriptus* (Gosse).

36. *Antennarius tigris* Poey.

Chironectes tigris Poey, *Memorias*, I, 217, tab. 17, fig. 2, 1860.

Antennarius tigris Poey, *Synopsis*, 405, 1868.

In the collection is a specimen about four inches long, which agrees perfectly with Poey's figure of *A. tigris*.

37. *Balistes vetula* Linnaeus.

38. *Orbidus testudineus* (Linnaeus.)

One specimen $7\frac{1}{2}$ inches long, ground-color very light; spots on sides not larger than those on back, which are smaller than pupil of eye.

INDIANA UNIVERSITY, *June 28*, 1889.